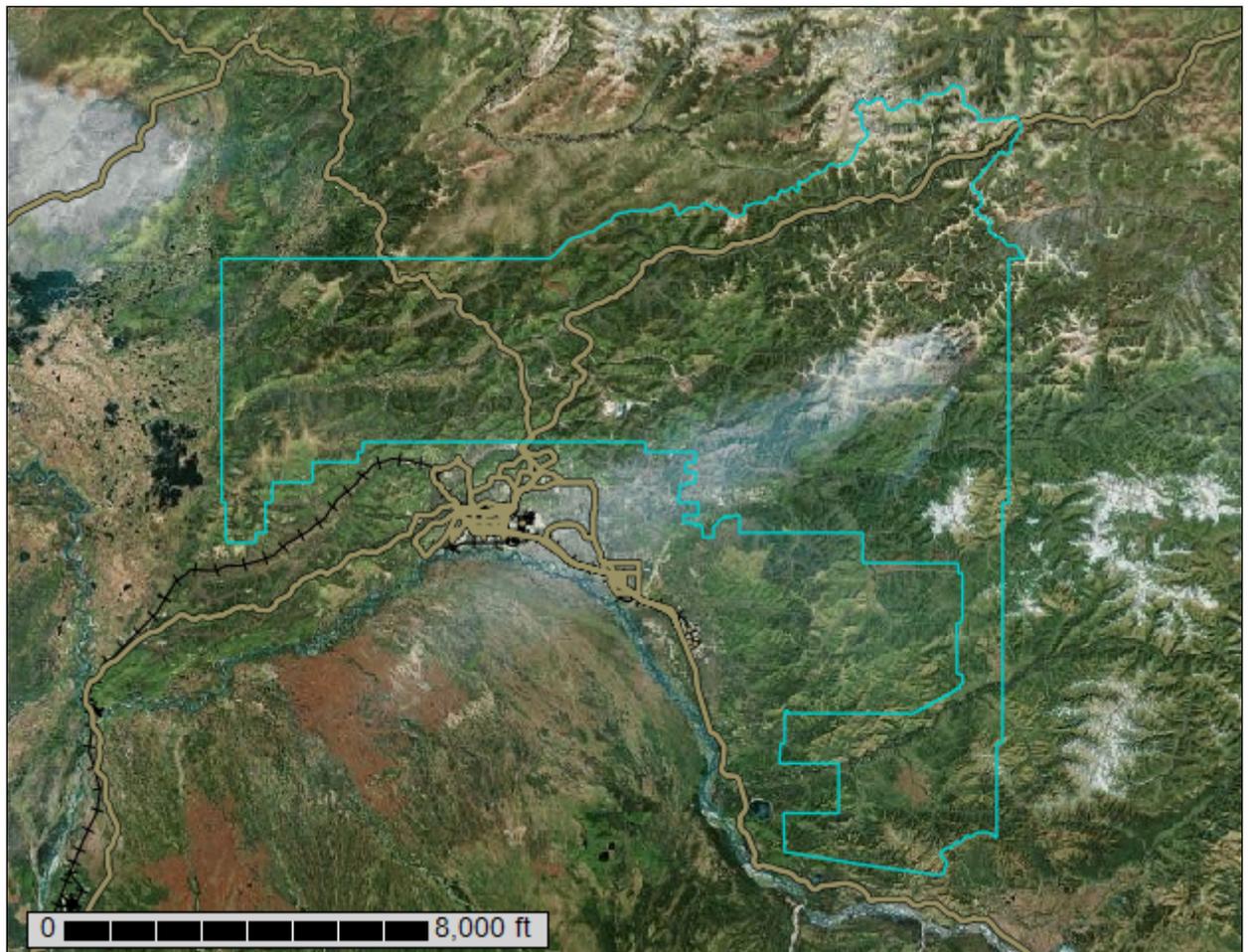


Custom Soil Resource Report for North Star Area, Alaska



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<http://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means

for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

- Preface.....2
- Soil Information for All Uses.....5**
 - Soil Reports.....5
 - Land Classifications.....5
 - Hydric Soil List - All Components.....5

Soil Information for All Uses

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Land Classifications

This folder contains a collection of tabular reports that present a variety of soil groupings. The reports (tables) include all selected map units and components for each map unit. Land classifications are specified land use and management groupings that are assigned to soil areas because combinations of soil have similar behavior for specified practices. Most are based on soil properties and other factors that directly influence the specific use of the soil. Example classifications include ecological site classification, farmland classification, irrigated and nonirrigated land capability classification, and hydric rating.

Hydric Soil List - All Components

This table lists the map unit components and their hydric status in the survey area. This list can help in planning land uses; however, onsite investigation is recommended to determine the hydric soils on a specific site (National Research Council, 1995; Hurt and others, 2002).

The three essential characteristics of wetlands are hydrophytic vegetation, hydric soils, and wetland hydrology (Cowardin and others, 1979; U.S. Army Corps of Engineers, 1987; National Research Council, 1995; Tiner, 1985). Criteria for all of the characteristics must be met for areas to be identified as wetlands. Undrained hydric soils that have natural vegetation should support a dominant population of ecological wetland plant species. Hydric soils that have been converted to other uses should be capable of being restored to wetlands.

Hydric soils are defined by the National Technical Committee for Hydric Soils (NTCHS) as soils that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part

Custom Soil Resource Report

(Federal Register, 1994). These soils, under natural conditions, are either saturated or inundated long enough during the growing season to support the growth and reproduction of hydrophytic vegetation.

The NTCHS definition identifies general soil properties that are associated with wetness. In order to determine whether a specific soil is a hydric soil or nonhydric soil, however, more specific information, such as information about the depth and duration of the water table, is needed. Thus, criteria that identify those estimated soil properties unique to hydric soils have been established (Federal Register, 2002). These criteria are used to identify map unit components that normally are associated with wetlands. The criteria used are selected estimated soil properties that are described in "Soil Taxonomy" (Soil Survey Staff, 1999) and "Keys to Soil Taxonomy" (Soil Survey Staff, 2006) and in the "Soil Survey Manual" (Soil Survey Division Staff, 1993).

If soils are wet enough for a long enough period of time to be considered hydric, they should exhibit certain properties that can be easily observed in the field. These visible properties are indicators of hydric soils. The indicators used to make onsite determinations of hydric soils are specified in "Field Indicators of Hydric Soils in the United States" (Hurt and Vasilas, 2006).

Hydric soils are identified by examining and describing the soil to a depth of about 20 inches. This depth may be greater if determination of an appropriate indicator so requires. It is always recommended that soils be excavated and described to the depth necessary for an understanding of the redoximorphic processes. Then, using the completed soil descriptions, soil scientists can compare the soil features required by each indicator and specify which indicators have been matched with the conditions observed in the soil. The soil can be identified as a hydric soil if at least one of the approved indicators is present.

Map units that are dominantly made up of hydric soils may have small areas, or inclusions, of nonhydric soils in the higher positions on the landform, and map units dominantly made up of nonhydric soils may have inclusions of hydric soils in the lower positions on the landform.

The criteria for hydric soils are represented by codes in the table (for example, 2). Definitions for the codes are as follows:

1. All Histels except for Folistels, and Histosols except for Folists.
2. Soils in Aquic suborders, great groups, or subgroups, Albolls suborder, Historthels great group, Histoturbels great group, Pachic subgroups, or Cumulic subgroups that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;
3. Soils that are frequently ponded for long or very long duration during the growing season.
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;
4. Map unit components that are frequently flooded for long duration or very long duration during the growing season that:
 - A. Based on the range of characteristics for the soil series, will at least in part meet one or more Field Indicators of Hydric Soils in the United States, or
 - B. Show evidence that the soil meets the definition of a hydric soil;

Custom Soil Resource Report

Hydric Condition: Food Security Act information regarding the ability to grow a commodity crop without removing woody vegetation or manipulating hydrology.

References:

- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. Doc. 2012-4733 Filed 2-28-12. February, 28, 2012. Hydric soils of the United States.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18.
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service. U.S. Department of Agriculture Handbook 436.
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service.
- Vasilas, L.M., G.W. Hurt, and C.V. Noble, editors. Version 7.0, 2010. Field indicators of hydric soils in the United States.

Custom Soil Resource Report

Report—Hydric Soil List - All Components

| Hydric Soil List - All Components—AK642-North Star Area, Alaska | | | | | |
|---|----------------------------------|------------|-----------------|---------------|----------------------------|
| Map symbol and map unit name | Component/Local Phase | Comp. pct. | Landform | Hydric status | Hydric criteria met (code) |
| 101: Bohica silt loam, 0 to 3 percent slopes | Bohica | 85 | Stream terraces | No | — |
| | Typic Cryochrepts-Mlra 229 | 5 | Stream terraces | No | — |
| | Cryofluvents | 5 | Terraces | No | — |
| | Histic Pergelic Cryaquepts-229 | 5 | Terraces | Yes | 2 |
| 102: Bohica silt loam, 3 to 7 percent slopes | Bohica | 85 | Stream terraces | No | — |
| | Cryofluvents | 5 | Terraces | No | — |
| | Histic Pergelic Cryaquepts-229 | 5 | Terraces | Yes | 2 |
| | Typic Cryochrepts-Mlra 229 | 5 | Stream terraces | No | — |
| 103: Dumps, mine | Dumps, mine | 95 | Flood plains | Unranked | — |
| | Aquepts | 5 | Depressions | Yes | 2,3 |
| 104: Ester peat, 7 to 15 percent slopes | Ester | 85 | Hills | Yes | 2 |
| | Histosols-Permafrost | 8 | Depressions | Yes | 1,3 |
| | Cryaquepts-Permafrost substratum | 7 | Hills | Yes | 2 |
| 105: Ester peat, 15 to 45 percent slopes | Ester | 85 | Hills | Yes | 2 |
| | Histosols-Permafrost | 8 | Depressions | Yes | 1,3 |
| | Cryaquepts-Permafrost substratum | 7 | Hills | Yes | 2 |
| 106: Ester-Gilmore complex, 15 to 45 percent slopes | Ester | 50 | Hills | Yes | 2 |
| | Gilmore | 30 | Hills | No | — |
| | Fairbanks | 5 | Hills | No | — |
| | Steese | 5 | Hills | No | — |
| | Rock outcrop | 5 | Ridges,hills | Unranked | — |
| | Cryochrepts | 5 | Hills | No | — |
| 107: Fairbanks silt loam, 3 to 7 percent slopes | Fairbanks | 85 | Hills | No | — |
| | Histic Pergelic Cryaquepts-231 | 4 | Depressions | Yes | 2 |
| | Gilmore | 4 | Hills | No | — |
| | Steese | 4 | Hills | No | — |

Custom Soil Resource Report

| Hydric Soil List - All Components--AK642-North Star Area, Alaska | | | | | |
|--|-----------------------------------|------------|--------------|---------------|----------------------------|
| Map symbol and map unit name | Component/Local Phase | Comp. pct. | Landform | Hydric status | Hydric criteria met (code) |
| | Typic Cryochrepts- Very deep | 3 | Hills | No | — |
| 108: Fairbanks silt loam, 7 to 12 percent slopes | Fairbanks | 85 | Hills | No | — |
| | Steese | 4 | Hills | No | — |
| | Gilmore | 4 | Hills | No | — |
| | Histic Pergelic Cryaquepts-231 | 4 | Depressions | Yes | 2 |
| | Typic Cryochrepts- Very deep | 3 | Hills | No | — |
| 109: Fairbanks silt loam, 12 to 20 percent slopes | Fairbanks | 85 | Hills | No | — |
| | Histic Pergelic Cryaquepts-231 | 4 | Hills | Yes | 2 |
| | Steese | 4 | Hills | No | — |
| | Gilmore | 4 | Hills | No | — |
| | Typic Cryochrepts- Very deep | 3 | Hills | No | — |
| 110: Gilmore silt loam, 3 to 7 percent slopes | Gilmore | 85 | Hills | No | — |
| | Typic Cryochrepts | 4 | Hills | No | — |
| | Histic Pergelic Cryaquepts-231 | 4 | Depressions | Yes | 2 |
| | Cryochrepts | 3 | Hills | No | — |
| 111: Gilmore silt loam, 7 to 12 percent slopes | Gilmore | 85 | Hills | No | — |
| | Typic Cryochrepts | 4 | Hills | No | — |
| | Histic Pergelic Cryaquepts-231 | 4 | Depressions | Yes | 2 |
| | Cryochrepts | 3 | Hills | No | — |
| 112: Gilmore silt loam, 12 to 45 percent slopes | Gilmore | 85 | Hills | No | — |
| | Cryochrepts | 8 | Hills | No | — |
| | Histic Pergelic Cryaquepts-231 | 7 | Hills | Yes | 2 |
| 113: Gilmore-Ester complex, 15 to 45 percent slopes | Gilmore | 50 | Hills | No | — |
| | Ester | 30 | Hills | Yes | 2 |
| | Rock outcrop | 4 | Ridges,hills | Unranked | — |
| | Histosols-Permafrost | 4 | Depressions | Yes | 1,3 |
| | Steese | 4 | Hills | No | — |
| | Cryochrepts | 4 | Hills | No | — |
| | Fairbanks | 4 | Hills | No | — |

Custom Soil Resource Report

| Hydric Soil List - All Components--AK642-North Star Area, Alaska | | | | | |
|--|---|------------|----------------------|---------------|----------------------------|
| Map symbol and map unit name | Component/Local Phase | Comp. pct. | Landform | Hydric status | Hydric criteria met (code) |
| 114: Gilmore-Steese complex, 3 to 15 percent slopes | Gilmore | 50 | Hills | No | — |
| | Steese | 35 | Hills | No | — |
| | Aquic Cryochrepts | 5 | Depressions on hills | No | — |
| | Typic Cryochrepts | 5 | Hills | No | — |
| | Cryochrepts | 5 | Hills | No | — |
| 115: Goldstream peat, 0 to 3 percent slopes | Goldstream-Non flooded | 90 | Alluvial flats | Yes | 2,3 |
| | Aquepts | 4 | Depressions | Yes | 2,3 |
| | Histic Pergelic Cryaquepts-229 | 3 | Alluvial flats | Yes | 2 |
| | Histosols-Permafrost | 3 | Depressions | Yes | 1,3 |
| 116: Goldstream peat, 3 to 7 percent slopes | Goldstream-Non flooded | 90 | Alluvial flats | Yes | 2,3 |
| | Aquepts | 4 | Depressions | Yes | 2,3 |
| | Histosols-Permafrost | 3 | Depressions | Yes | 1,3 |
| | Histic Pergelic Cryaquepts-229 | 3 | Alluvial flats | Yes | 2 |
| 117: Goldstream-Pergelic Cryohemists complex, 0 to 2 percent slopes | Goldstream-Non flooded | 60 | Alluvial flats | Yes | 2,3 |
| | Pergelic Cryohemists | 30 | Alluvial flats | Yes | 1,3 |
| | Aquepts | 10 | Depressions | Yes | 2,3 |
| 118: Histic Pergelic Cryaquepts, fans, 1 to 20 percent slopes | Histic Pergelic Cryaquepts-231 | 90 | Alluvial fans | Yes | 2 |
| | Histic Pergelic Cryaquepts-231 moderately steep | 5 | Alluvial fans | Yes | 2 |
| | Histosols-Permafrost | 5 | Depressions | Yes | 1,3 |
| 119: Histic Pergelic Cryaquepts, 15 to 45 percent slopes | Histic Pergelic Cryaquepts-231 | 90 | Hills | Yes | 2 |
| | Cryaquepts-Permafrost substratum | 5 | Hills | Yes | 2 |
| | Histosols-Permafrost | 5 | Depressions | Yes | 1,3 |
| | Histic Pergelic Cryaquepts-229 | 70 | Flood plains | Yes | 2 |
| 120: Histic Pergelic Cryaquepts-Fubar complex, 3 to 7 percent slopes | Fubar-Frequent brief flooding | 20 | Flood plains | No | — |
| | Histosols-Permafrost | 3 | Depressions | Yes | 1,3 |
| | Aquepts | 3 | Depressions | Yes | 2,3 |
| | Typic Cryofluvents | 2 | Flood plains | No | — |

Custom Soil Resource Report

| Hydric Soil List - All Components--AK642-North Star Area, Alaska | | | | | |
|--|--------------------------------|------------|-----------------------|---------------|----------------------------|
| Map symbol and map unit name | Component/Local Phase | Comp. pct. | Landform | Hydric status | Hydric criteria met (code) |
| 121: Histic Pergelic Cryaquepts-Typic Cryochrepts association, 15 to 45 percent slopes | Histic Pergelic Cryaquepts-231 | 55 | Hills | Yes | 2 |
| | Typic Cryochrepts | 35 | Hills | No | — |
| | Cryochrepts-Wet | 5 | Hills | No | — |
| | Rock outcrop | 5 | Ridges,hills | Unranked | — |
| 122: Histic Pergelic Cryaquepts-Typic Cryochrepts complex, 15 to 45 percent slopes | Histic Pergelic Cryaquepts-231 | 55 | Hills | Yes | 2 |
| | Typic Cryochrepts | 35 | Hills | No | — |
| | Cryochrepts-Wet | 5 | Hills | No | — |
| | Rock outcrop | 5 | Ridges,hills | Unranked | — |
| 123: Jarvis-Fubar complex, 0 to 3 percent slopes | Jarvis | 50 | Flood plains | No | — |
| | Fubar-Frequent brief flooding | 35 | Flood plains | No | — |
| | Histic Pergelic Cryaquepts-229 | 10 | Flood plains | Yes | 2 |
| | Aquepts | 5 | Depressions | Yes | 2,3 |
| 124: Jarvis-Salchaket complex, 0 to 3 percent slopes | Jarvis | 60 | Flood plains | No | — |
| | Salchaket | 30 | Flood plains | No | — |
| | Aquepts | 5 | Depressions | Yes | 2,3 |
| | Fubar-Frequent brief flooding | 5 | Flood plains | No | — |
| 125: Pergelic Cryohemists | Pergelic Cryohemists | 90 | Alluvial flats | Yes | 1,3 |
| | Water | 10 | Depressions | Unranked | — |
| 126: Pits, gravel | Pits, gravel | 95 | Flood plains,terraces | Unranked | — |
| | Water | 5 | Depressions | Unranked | — |
| 127: Riverwash | Riverwash | 90 | Flood plains | Unranked | — |
| | Fluvents | 10 | Flood plains | Yes | 4 |
| 128: Rubble land | Rubble land | 90 | Hills,mountains | Unranked | — |
| | Rock outcrop | 10 | Hills,ridges | Unranked | — |
| 129: Salchaket very fine sandy loam, 0 to 2 percent slopes | Salchaket | 85 | Flood plains | No | — |
| | Jarvis | 8 | Flood plains | No | — |
| | Histic Pergelic Cryaquepts-229 | 7 | Flood plains | Yes | 2 |
| 130: Saulich peat, 3 to 7 percent slopes | Saulich | 90 | Valley sides | Yes | 2 |
| | Histic Pergelic Cryaquepts-231 | 5 | Alluvial fans | Yes | 2 |
| | Histosols-Permafrost | 5 | Depressions | Yes | 1,3 |

Custom Soil Resource Report

| Hydric Soil List - All Components--AK642-North Star Area, Alaska | | | | | |
|---|----------------------------------|------------|----------------|---------------|----------------------------|
| Map symbol and map unit name | Component/Local Phase | Comp. pct. | Landform | Hydric status | Hydric criteria met (code) |
| 131: Saulich peat, 7 to 12 percent slopes | Saulich | 90 | Valley sides | Yes | 2 |
| | Histosols-Permafrost | 5 | Depressions | Yes | 1,3 |
| | Histic Pergelic Cryaquepts-231 | 5 | Alluvial fans | Yes | 2 |
| 132: Saulich peat, 12 to 20 percent slopes | Saulich | 90 | Valley sides | Yes | 2 |
| | Histic Pergelic Cryaquepts-231 | 5 | Alluvial fans | Yes | 2 |
| | Histosols-Permafrost | 5 | Depressions | Yes | 1,3 |
| 133: Saulich-Fairbanks complex, 3 to 12 percent slopes | Saulich | 60 | Valley sides | Yes | 2 |
| | Fairbanks | 35 | Hills | No | — |
| | Typic Cryochrepts-Very deep | 2 | Hills | No | — |
| | Cryaquepts-Permafrost substratum | 2 | Hills | Yes | 2 |
| | Steese | 1 | Hills | No | — |
| 134: Steese silt loam, 7 to 12 percent slopes | Steese | 85 | Hills | No | — |
| | Cryaquepts-Permafrost substratum | 6 | Hills | Yes | 2 |
| | Histic Pergelic Cryaquepts-231 | 5 | Hills | Yes | 2 |
| | Typic Cryochrepts | 4 | Hills | No | — |
| 135: Steese silt loam, 12 to 45 percent slopes | Steese | 85 | Hills | No | — |
| | Cryochrepts | 8 | Hills | No | — |
| | Histic Pergelic Cryaquepts-231 | 7 | Hills | Yes | 2 |
| 136: Steese-Gilmore complex, 10 to 45 percent slopes | Steese | 50 | Hills | No | — |
| | Gilmore | 40 | Hills | No | — |
| | Cryochrepts | 10 | Hills | No | — |
| 137: Tanana silt loam, moderately wet, 0 to 3 percent slopes | Tanana-Rare brief flooding | 85 | Terraces | Yes | 2,3 |
| | Histic Pergelic Cryaquepts-229 | 8 | Alluvial flats | Yes | 2 |
| | Aquepts | 7 | Depressions | Yes | 2,3 |
| 138: Typic Cryochrepts-Rock outcrop complex, 6 to 35 percent slopes | Typic Cryochrepts-Stony | 35 | Hills | No | — |
| | Typic Cryochrepts | 35 | Hills | No | — |

Custom Soil Resource Report

| Hydric Soil List - All Components--AK642-North Star Area, Alaska | | | | | |
|--|--------------------------------|------------|-----------------|---------------|----------------------------|
| Map symbol and map unit name | Component/Local Phase | Comp. pct. | Landform | Hydric status | Hydric criteria met (code) |
| | Rock outcrop | 15 | Ridges,hills | Unranked | — |
| | Aquepts | 5 | Depressions | Yes | 2,3 |
| | Histic Pergelic Cryaquepts-231 | 5 | Hills | Yes | 2 |
| | Rubble land | 5 | Hills,mountains | Unranked | — |
| 139: Water | Water | 100 | Depressions | Unranked | — |